Taking an Enterprise View of IT

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The Department of the Navy (DON) continues to evolve and improve how it is forging cohesive and integrated management of business and enterprise information technology. Progress is being made across the board, from the details of how to assess the utility of individual applications, to instituting new robust governance structures at the strategic level, and in between, where IT management is working to provide leadership insight, oversight and the reins to guide an agile IT enterprise.

This management effort has not been made explicit and is still evolving in response to external pressures, the need to address fiscal realities, evaluation of industry IT management models, benefit projections and coordination among key IT leadership. The enduring impetus from challenges identified through the systematic implementation of the Navy Marine Corps Intranet (NMCI) is fostering a longer view of IT management at the corporate level. Management involves more than what is probably perceived through press reports as just executing IT initiative by initiative. The purpose of this article is to provide insight into how one might view the evolving DON IT management construct.

The Challenge and the Imperative

The Government Accountability Office (GAO) has cited numerous inadequacies in IT management across the Department of Defense. Many of these reports consistently state that insufficient steps have been taken to properly support business reform DoD-wide with an integrated approach. *(See the Reference Links text box for a list of GAO reports and policy documents.)* Missing has been a clear expression of management responsibility, accountability and control over IT-related activities and resources.

In addition to the need to support business reform and solid business practices, industry also tells us there are fiscal and other benefits enabled through robust IT management. Industry experience supports recent Navy leadership messages on the need to maximize or optimize the utilization of the systems we have today. Industry data cited in Figure 1 show that rigorous IT management enables dramatic improvements in the cost-effectiveness of IT operations, ranging from 5 percent in improved software licensing, 20 to 30-percent improvement in data center cost and other cost-saving initiatives.

Given the scale of DON IT operations, potential savings could range upward of hundreds of millions of dollars annually from implementing corporate IT life-cycle management measures and approaches. DON senior leadership has issued several critical mandates recently that place an emphasis on improving cost-effectiveness, doing so through the reduction of the Department's IT base and continued improvement through solid IT management. A few examples include:

Data/Server Consolidation

- 20-30% reduction in data center operation costs[1]
- 10-20% reduction in IT infrastructure budgets during 2-year period[2]

Enterprise Asset Management

- 5% in license fees, first year, 2-3% in ensuing years; potentially 10% per year by identifying poorly managed assets[3]

Enterprise Content Management

- Most content managers and planners report a 12-month to 18-month pay back for an average midsize installation[4]

Enterprise Systems Management

- 10% savings per year[5]

[1] *AMR Data Center Consolidation*
[2] *Gartner*
[3] *Gartner - IT Management Reduce Costs and Minimize Risks*
[4] *Gartner - You Can Document ROI for Web Content Management*
[5] *Gartner - IT Management Reduce Costs and Minimize Risks*

Figure 1.

• Assistant Secretary of the Navy, Research, Development and Acquisition (ASN (RDA)) Memo – Purchase of Servers and Application Hosting Services of Nov. 12, 2004 – direction on review and approval of purchase or lease of server or application-hosting services for CONUS ashore use.

• ASN (RDA) Memo – DON Acquisition Policy on Mobile (Cellular) Phone and Data Equipment and Services of March 7, 2005 – providing for increased centralized visibility into and control of mobile communications usage.

• SECNAV Washington DC 111413Z Jan 05 (ALNAV 003/05) – SECNAV-issued naval message defining DON IT Objectives for 2005.

The evolution of the Department's perspective on IT management can be seen in the details of the Secretary of the Navy IT objective, as stated below:

I. Information Technology (IT): Transform the Enterprise Business IT functions of the Navy.

(1) Achieve 100 percent cut over to NMCI.

(2) Begin to turn off legacy networks and consolidate legacy servers.

(3) Reduce the number of applications through the Functional Area Manager's application rationalization and migration processes.

(4) Develop methods for enhanced life-cycle management and visibility of IT assets to reduce total cost of ownership.

The first several subobjectives are fairly intuitive, though not to say easy, and target completing corporate efforts previously initiated (NMCI seat rollout) and reducing and consolidating IT assets (applications, networks, servers, etc.). The fourth subobjective bears additional discussion because it calls for evolving to a Department-wide IT life-cycle management construct. What might this construct look like given what is underway today?

Models for Viewing the Whole

In response to the Secretary of the Navy IT objective, a plan was generated utilizing the basic tenets of acquisition life-cycle management. Although not inclusive of every Department initiative that would contribute to accomplishment of the objective, this framework can be used to relate many of the Department's corporate IT initiatives.

Simplistically, the life-cycle steps making up the framework are:

- *Identify what IT assets you have, and analyze for improvement.*
- *Reduce the inventory to the extent not dependent on more long-term activities, such as generating a top-down, business-to-business process for business IT mappings and improvements.*
- *Make use of real operational data, economies of scale and smart buying to support the IT asset base required.*
- *Achieve additional efficiencies in operations, including centralized management of IT assets or alternative business approaches providing for the efficient use of IT, such as IT services or commercial hosting.*
- *Support continued evolution of DON enterprise business IT through responsive management of the IT portfolio.*

How current efforts fall into these steps and the degree they are interrelated can be seen in Figure 2.

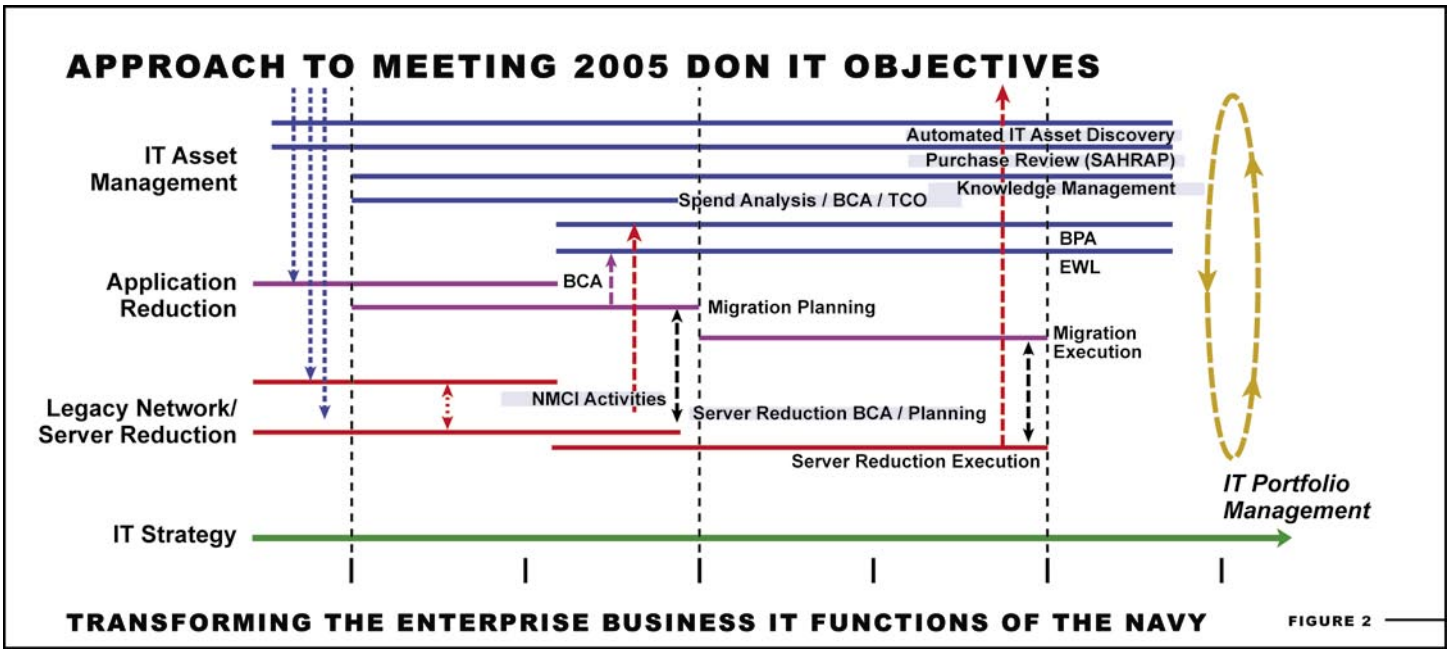
Steps of the life cycle are shown vertically on the left, and individual IT efforts under each are shown in the time lines. Although the time line is not scaled, it does give a sense of the amount of coordination required among all these activities. The vertical dashed arrow lines illustrate dependencies among the individual efforts. For example:

- *Automated asset discovery efforts currently underway will be used to assess the number and utilization of current server assets and to support a corporate business case for server consolidation.*
- *Server purchase and application-hosting reviews link hardware procurements to application reduction and approval efforts by Command Information Officers (CIO) and Functional Area Managers (FAM), thereby strengthening the Department's overall governance structure through information sharing.*
- *Application reduction, asset management and server procurement information support legacy network reduction and resolution of other issues impeding the rollout of NMCI seats.*
- *The FAM process (consisting of functional analysis, requirements setting, acquisition and portfolio management) yields requirements for enterprise-wide software licensing while asset discovery supports the scope of the required license.*

Obviously, centralized coordination of all these activities and the supporting processes are required if the promise of business and enterprise IT is to come to fruition. The need for rigor in establishing centralized management also becomes apparent when the impact of individual IT management initiatives on other management processes is shown. Let me use asset discovery mentioned above to illustrate.

Anecdotal evidence from DON efforts to estimate its application server population has shown, with remarkable consistency, that server counts from automated scanning yield about twice the number of servers in use compared with data call results, and about four times the typical offhand estimate. Although

Figure 2.



intuitively it makes sense to have the most accurate data on IT assets, the criticality becomes even clearer when one maps the dependency of other IT life-cycle processes on asset discovery information.

The next illustration, Figure 3, shows a composite view of various commonly utilized IT and IT infrastructure management standards, broken out into life-cycle phases: plan, deliver, operate, monitor and evaluate. Notice that of the 51 subelements of this IT management construct (each supported by auditable processes and procedures derived from industry standards) 23 subelements or 45 percent of the total are in whole or in part dependent upon asset discovery data (white blocks).

The take-away is that it is absolutely paramount to have accuracy and rigor in building the management framework if one expects to provide for rigorous enterprise IT management and; thereby, obtain the benefits of having an enterprise.

Challenges to Adopting an Enterprise Approach

So, besides rigor and accuracy in integration, what other challenges does the Department face in establishing business and enterprise IT management? Many issues can be cited and most are interrelated but at the top of the hit parade are arguably: scope, prioritization, centralized funding models and governance to support aggregation.

Scope

The scope of this effort is daunting:

•$3.8 billion in annual expenditures for DON IT (not including National Security Systems)

•More than 30,000 fielded applications

•An application rationalization process with over 9,000 approved or approved-with-restriction applications, each requiring some measurable migration plan and resourced execution

•Over 18.3 million Internet Protocol (IP) addresses and 285,000 network devices cataloged to date.

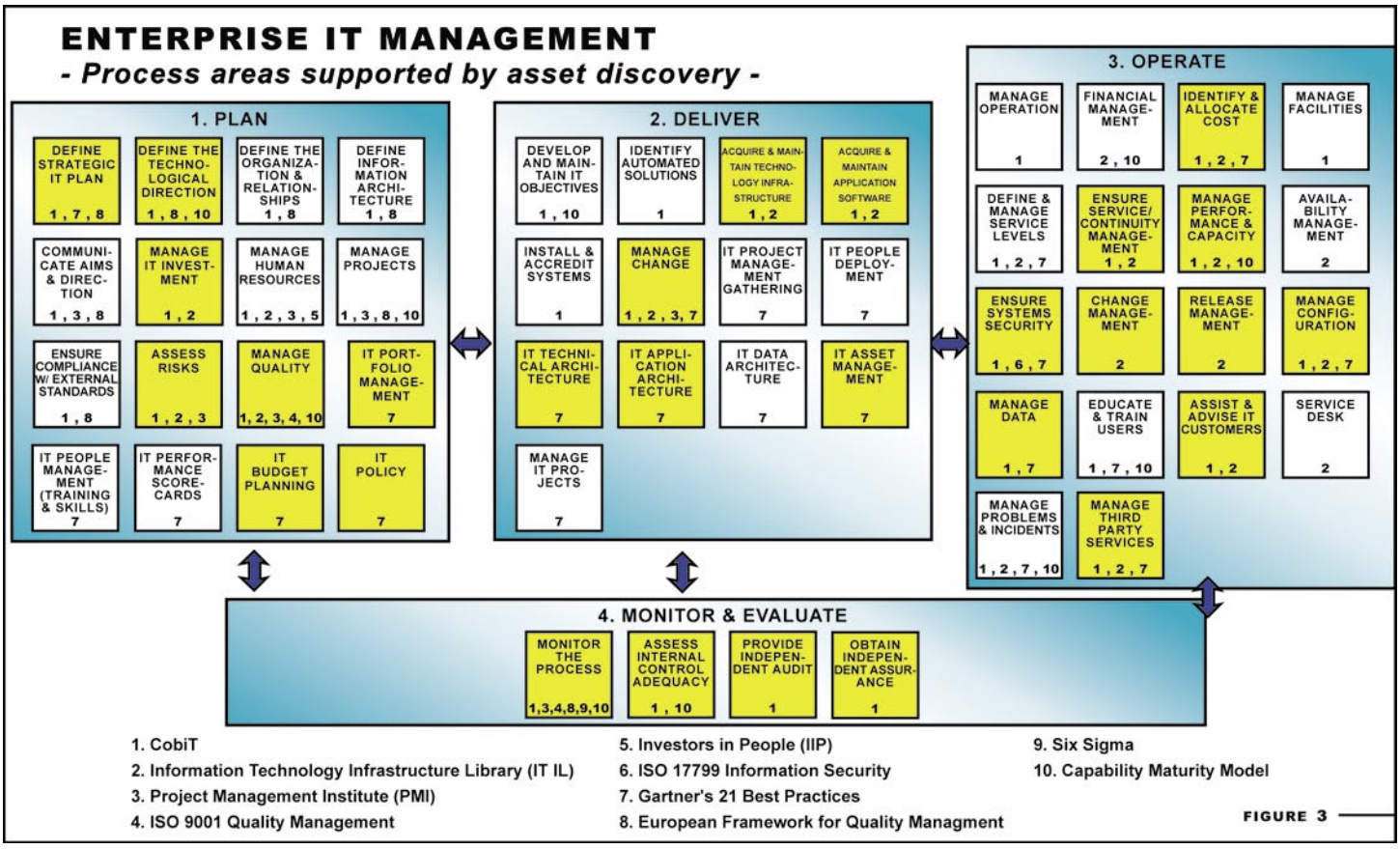
By comparison, although certainly not trivial by any stretch of the imagination, the widely discussed FORCEnet effort to baseline and assess systems is currently contending with a database of over 400 predominately C4I systems in its FORCEnet Implementation Baseline (FIBL) process, according to a July 12, 2005, press release issued by the Naval Facilities Engineering Command.

Prioritization

Placing a priority on business and enterprise IT is difficult in that it is arguably somewhat disadvantaged at the budget table in comparison to C4I systems and certainly to weapons systems.

The issue is comparing the value, of what are viewed in some camps as, "back-office" systems with "warfighting" systems — the veritable "guns and butter" comparison. Not to say that there aren't ways to do that comparison. For instance, OPNAV N6/N7 has invested heavily in modeling to assess the value balance between physical and information assets: ships, weapons and C4I. But the linkage between business systems and these models is currently tenuous at best.

Figure 3.



Program Executive Officer for Information Technology, Steve Ehrler, (left) and U.S. Senator David Vitter (R-LA) at the DON Enterprise IT Industry Symposium, New Orleans, La., Aug.10, 2005. The senator was one of several guest speakers at the conference.

Central Funding

Centralized or corporate funding of enterprise initiatives is more difficult than it might at first seem. There is a common perception that some of these initiatives are "self-funding" meaning the payback of the investment in IT consolidation is recouped from the resulting reduced costs within the same execution year. So why don't these efforts take off?

The stumbling block is with "priming the pump." There has to be funding to initiate the effort to generate the savings to pay back the investment. First, there are no IT funds that aren't already being used to support ongoing activities. Therefore, funds for new corporate initiatives have to come from existing sources. Second, even self-funding activities require cash flow to get them started — and sometimes "it ain't flowing." Third, even given the availability of funds, there is still an investment decision to be made and consideration of other priorities.

Fourth, the IT asset-owning organization accrues a return on investment (ROI) that consists of strategic and efficiency gains not easily translated into immediate cash savings. Further, real cost reduction yields little "spendable" cash and is often a fraction of the total benefits derived from the initiative. Because only spendable cash can be passed back to corporate Navy to pay back a corporate investment, centralized funding of IT initiatives in a federated environment is hard to justify.

Support for Aggregation

Lastly, the hard-working folks who have done an exceptional job keeping the Department's IT running and evolving are likely to be skeptical of anyone offering "to help," and they usually have legitimate concerns for continuity in operations that need to be addressed.

As with any change, a solid exchange on concerns, approaches and options, facilitated by an institutionalized governance structure, is required to provide the needed momentum and support to the enterprise initiative.

Reference Links

GAO, DoD Business Systems Modernization: Long-Standing Weaknesses in Enterprise Architecture Development Need to Be Addressed, GAO-05-702 (Washington, D.C., July 22, 2005). http://www.gao.gov/new.items/d05702.pdf.

GAO, DoD Business Systems Modernization: Limited Progress in Development of Business Enterprise Architecture and Oversight of Information Technology Investments, GAO-04-731R (Washington, D.C., May 17, 2004). http://www.gao.gov/new.items/d04731r.pdf.

GAO, DoD Business Systems Modernization: Billions Being Invested without Adequate Oversight, GAO-05-381 (Washington, D.C., April 29, 2005). http://www.gao.gov/new.items/d05381.pdf.

GAO, DoD Business Systems Modernization: Billions Continue to Be Invested with Inadequate Management Oversight and Accountability, GAO-04-615 (Washington, D.C. May 28, 2004). http://www.gao.gov/new.items/d04615.pdf.

GAO, High-Risk Series: An Update, GAO-05-207 (Washington, D.C., January 2005). http://www.gao.gov/new.items/d05207.pdf/.

ASN (RDA) Memorandum - Purchase of Servers and Application Hosting Services of 12 Nov 04. http://www.peo-it.navy.mil/HomePageContent/SAHRAP/ASNRDAMemo.pdf.

ASN (RDA) Memorandum - Department of the Navy Acquisition Policy on Mobile (Cellular) Phone and Data Equipment and Services of 7 Mar 05. http://www.peo-it.navy.mil/HomePageContent/Mobile_Phone_Policy/Signed_memo.pdf.

SECNAV WASHINGTON DC 111413Z Jan 05 (ALNAV 003/05), Department of the Navy Objectives for 2005. http://www.npc.navy.mil/ReferenceLibrary/Messages/ then choose drop down menu for Message Type "ALNAVS for 2005."

"Navy's Virtual SYSCOM Transforming Business Processes: NAVAIR, NAVSEA, SPAWAR, NAVSUP, NAVFAC Team Up to Enhance Performance, Reduce Costs and Gain Efficiencies," July 12, 2005, Press Release. https://portal.navfac.navy.mil/pls/portal/APP_PAO.PRESSRELFULL_DEV_DYN.show?p_arg_names=newsid&p_arg_values=1485/.

Summary

The Department of the Navy has demonstrated aggressive, progressive leadership with initiatives such as adoption of Enterprise Resource Planning systems, infrastructure service contracts with specified performance and application, and other IT asset management. Past efforts have set the stage for establishing an enduring, effective, centralized management structure to support and guide DON IT execution in a federated manner. Business and enterprise IT management is a challenging and exciting arena. Stay tuned for further evolution! CHIPS